

Comment on *Cognettia* Nielsen & Christensen, 1959 (Annelida, Oligochaeta, ENCHYTRAEIDAE): proposed precedence over *Euenchytraeus* Bretscher, 1906 and *Chamaedrillus* Friend, 1913

(Case 3689; see BZN 72: 186–192, 303–308)

Maria J.I. Briones

Dept. Ecología y Biología Animal, Universidad de Vigo, 36310 Vigo, Spain
(e-mail: mbriones@uvigo.es)

Cognettia is probably the best-known enchytraeid genus among soil scientists. Given the poor recognition of soil invertebrate taxonomy it is crucial to maintain the nomenclatural stability of this genus so that any information about the ecology, physiology and biology of these little-known organisms becomes more accessible for current and future generations of researchers.

Enchytraeids are not the only organisms suffering from long taxonomical instability. Over the years the LUMBRICIDAE (another family of the class Oligochaeta) has also experienced changes in the names of its genera and species due the lack of agreement in the ranking of diagnostic characters. This has led to the incomprehensible situation in which the same species receives different names in different parts of the world. An additional aggravation of the problem is the recent development of molecular techniques that have revolutionized the way we identify and name species, genera and families. The coining of new terms such as ‘cryptic diversity’ and ‘genetic lineages’ within single species have made it very difficult for ecologists to design and interpret their results from field surveys and experimental manipulations. As an example, in 2010 new work (James et al., 2010) concluded that the most profusely investigated earthworm species, *Lumbricus terrestris*, was indeed two different species based on molecular work (*L. terrestris* and *L. herculeus*). This not only puzzled all soil ecologists working with this ‘species’ and who now wonder how to deal with the past published literature, but also those research teams who have been working and publishing their results on this particular organism for more than 20 years.

As a taxonomist and ecologist, I am very concerned about how far apart the taxonomy and the ecology of soil organisms have been drifting over the years. I strongly defend both worlds and the need for both of them to flow in parallel since one of the more evident failures of gene sequencing is that it does not provide the essential link between one species (gene) identity and its function in nature (see for example, this opinion provided by NERC: <http://planetearth.nerc.ac.uk/features/story.aspx?id=1789&cookieConsent=A>). Indeed, in the case of earthworms my work has allowed me to conclude that anatomical or genetic information alone cannot define any lumbricid genus and that gathering morphological, biological, physiological, ecological and genetic evidence together provides the best tool for solving the current ‘unequal chaos’ of lumbricid taxonomy (Briones et al., 2009). I strongly believe that this statement applies to any other family of the Oligochaeta, including ENCHYTRAEIDAE, which has been the focus of many of my ecological studies. In recent years, several papers have been published with the aim of understanding the phylogenetic relationships among some enchytraeid species (Christensen & Glenner, 2010; Erséus et al., 2010). It is expected that more work will follow and not only *Cognettia* but also the names of other genera could become jeopardised.

The fact that we have more powerful techniques for rapid sequencing of many DNA samples does not mean that we are getting any further insights into what they do. So I

think what we need is to gather more knowledge on species from a wide range of locations, habitats and ecosystems rather than changing the taxonomic status of a particular taxon every time that new genomic information comes to light.

The Principle of Priority (Article 23.1 of the Code) it is 'the principle of recognising the first valid application of a name to a plant or animal', but *Chamaedrillus* and *Euenchytraeus*, were rejected by several workers in the past and consequently, they were not considered to be valid for almost a century. Can we now be sure that they have acquired a valid status? Would it not be sensible to allow for more evidence to become available and to prove their validity before moving names backwards and forwards?

Additional references

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